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ABSTRACT

The Fourth Annual Report from the School Planning Laboratory discusses the quest for quality and explains how better schools have been planned at the Center through--(1) systems construction, (2) an airborne institute, (3) school planning education, (4) service to visitors, (5) community college planning, (6) direct assistance, and (7) continued effort. (RK)

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THE QUEST FOR QUALITY 1964

A Report on SPL Efforts to Encourage Better Planning for Better Schools in 1964

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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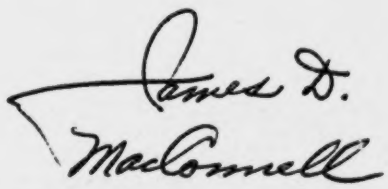
The need for more schools is so blindingly obvious today that the need for better schools is often obscured. Yet, if the problem of better schools is not solved coincident with solving the problem of enough schools, the latter solution will be temporary indeed. After all, the population is not just exploding, it is changing — and the same applies to knowledge, it is becoming more complex at the same time that it is expanding. The inevitable adjustments society makes to meet these changes must be reflected in both educational programs and the school facilities needed to house them. Schools must be built in which the programs of the future could conceivably function effectively today.

Better schools through better planning is the persistent objective of the School Planning Laboratory. It pursues this objective as part of Stanford's School of Education and as Western Regional Center for the Ford Foundation's Educational Facilities Laboratories in New York. When even a generous district budget and state and federal assistance fails to produce either better schools or better education — and this is too often the case — the fault can usually be traced to a lack of planning or to planning in ignorance of the alternatives available. It is a major purpose of SPL to demonstrate that much better schools are possible even within the budgets under which existing schools are built.

The School Planning Laboratory carries out its objective by several means: by direct assistance under Educational Facilities Laboratories grants to school districts with planning problems, by a program of information dissemination under which wide publicity is given to examples set by successful school designs and to new developments in school planning, and by exchanging the latest educational facilities information at meetings and conferences organized by the Laboratory or attended by its representatives.

There are many outstanding schools in which the School Planning Laboratory's influence is manifest and which have been and will continue to be a revelation to educators and planners throughout the nation. To some these schools serve as models and to others as points of departure to greater creativity and improvement in school design and plant utility.

Correspondence and personal visits from individuals assisted by the laboratory indicate its influence has grown during 1964. Second and third parties communicating with the laboratory have further indicated that ideas developed in the School Planning Laboratory have been effectively applied in many facilities whose planners have had only indirect contact with the Laboratory. It is not always necessary to inspire others toward higher objectives in facilities planning or to give direct assistance, sometimes it is quite enough to encourage them to implement their own creative impulses. It is perhaps in the realm of encouragement that the laboratory has succeeded most in 1964 and years past.



James D. MacConnell, Director
School Planning Laboratory
School of Education, Stanford University

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1964

Fourth
Annual Report
from the
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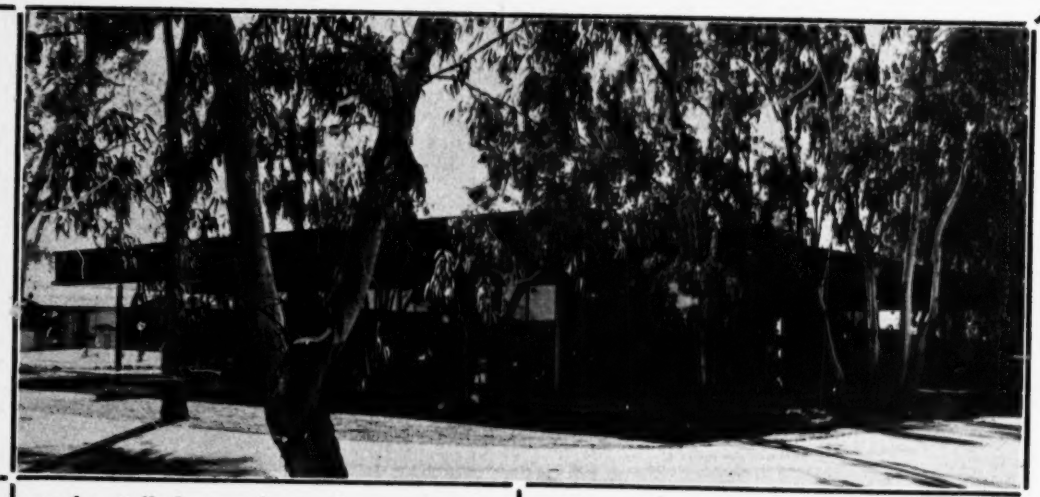
BETTER SCHOOLS THROUGH 'SYSTEMS' CONSTRUCTION

Major strides toward better schools within existing budgets are being made in the School Construction Systems Development (SCSD) project. Traditionally, school architects select standard products to cut costs and design school buildings to make the best use of what a district can afford. At best, this process is only comparatively successful, always arduous, and necessarily repeated, from beginning to end, for each new school. The questionable adequacy of this method led to the establishment of the School Construction Systems Development project by Educational Facilities Laboratories (EFL) in 1962. Since that time, the School Planning Laboratory, working in conjunction with the Department of Architecture at the University of California, has been striving to achieve satisfactory alternatives through a systems approach.

In 1964, a 3600 square foot mock-up building was completed on Stanford campus incorporating a totally integrated system of structural, air conditioning and heating, lighting/ceiling, and interior partitioning subsystems. The component elements that are part of this first SCSD system normally account for 50 percent of the cost of building schools. The mock-up building is currently the property of the First California Commission on School Construction Systems, the body representing the thirteen California School Districts that agreed to utilize this system for the 2.4 million square feet of educational facilities construction they will carry out in the immediate future.

Selling the "systems" concept to potential users, writing specifications to meet both their needs and SCSD project objectives, and convincing manufacturers of the potential rewards of carrying out the necessary component research and development required planning, organization, and cooperation of a pioneering order. Bidding, contracting, and contract monitoring procedures had to be developed which could handle the special complexities of the arrangements between the project staff, the school districts, and the component manufacturers. An account of the experience that went into creating the SCSD system has been published in a two-volume compilation of bidding procedures, contract documents, and specifications published by the project. This same

Overnight this building underwent an internal metamorphosis. The number, size, and arrangement of rooms changed without any sacrifice to optimum conditions of lighting, acoustics, and thermal control.

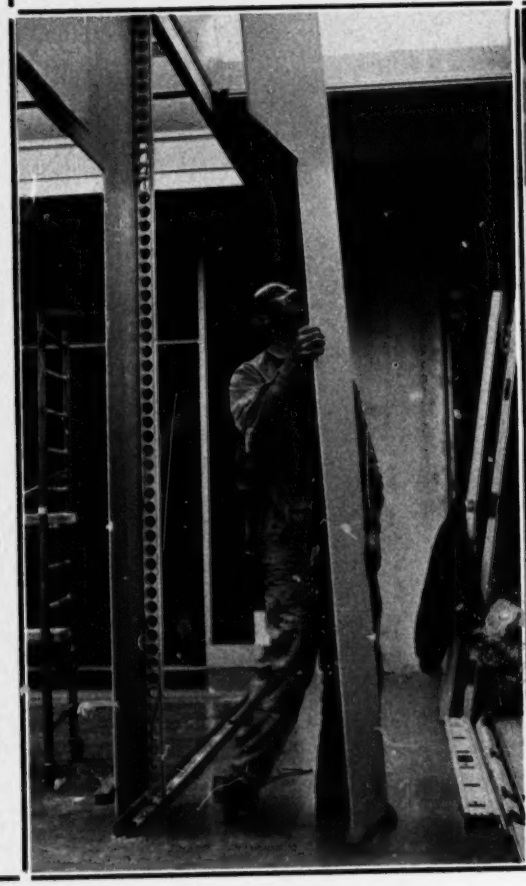


experience will be applied in the subsequent development of other integrated component systems competitive with that incorporated in the mock-up building.

As part of the testing procedure, the interior spaces in the mock-up building were completely rearranged during a visit by the Educational Facilities Laboratories Board of Directors in December 1964. After visiting the mock-up building one afternoon, the board returned the next morning to find the interior of the building drastically changed. Overnight, some 120 lineal feet of demountable wall had been removed and about 25 feet of new wall had been installed. This created a large lobby area and two large rooms with operable walls where formerly there had been five rooms. The work entailed removing and replacing partition panels, studs, ceiling and floor partition runners, a door and frame, thermostats, electrical outlets, and inner-wall wiring, and also rezoning the air conditioning and heating system to accommodate the new arrangement. A considerable amount of lighting and ceiling modification was undertaken to accommodate the new floor plan. The testing schedule calls for the mock-up building interior to be revised at least ten times over a period of two months.

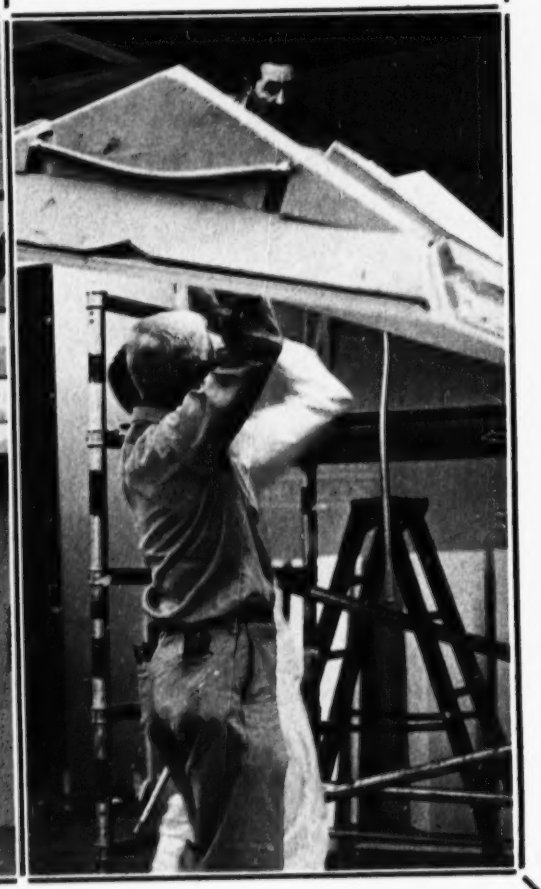
The environmental tests being conducted are part of a program to ensure that the components supplied to the member districts are in accord with the stringent SCSD specifications under which they were developed. Buildings incorporating the SCSD system can have ceilings 10 feet high or higher (in 2-foot increments); completely column free areas larger than the specified 7,200 square feet; individually controlled temperature environment in areas as small as 450 square feet; any arrangement of lighting consistent with a 5′x5′ module or multiples thereof; and walls which relate to the ceiling on a 4′ module for greater flexibility. The system provides for either a one or two-story building configuration, and the exterior design — not being a part of the system — is completely up to the discretion of the district and the school architects. The SCSD system is designed to provide superior educational facilities with a hitherto unrealized degree of flexibility, and at a cost within the California State Building Aid financing structure.

Double-faced steel panels with a gypsum core snap into place to form a double acoustical wall. All wall elements, including studs and floor and ceiling runners, are demountable.



This room could vary greatly as to size or shape; could have panels of any of 35 colors, chalkboard or tackboard panel surfaces, and any number of standard accessory wall channels; and a ceiling with one or a combination of the many lighting configurations. Air conditioning strip diffusers between the light coffers in ceiling are also relocatable.

Lighting coffers are easily rearranged within the ceiling module. A variety of bulb and diffuser elements permit as many as 14 different lighting configurations.



THROUGH AN AIRBORNE INSTITUTE

Learning from the experience of others is as fundamental to progress in school planning as in anything else. In keeping with this precept, the School Planning Laboratory once again organized a tour to significant educational facilities throughout the country under a grant from Educational Facilities Laboratories. This year the tour focused on higher education, primarily junior colleges, and included twelve schools spotted across the nation. The sixty participants were college educators and planners in the process of expanding their own or creating entirely new college facilities. Collectively, their anticipated expenditure for facilities will account for more than half a billion dollars worth of new facilities construction. Included among the colleges visited were:

Miami-Dade College, Miami, Florida
Florida Atlantic University,
Boca Raton, Florida
Chicago Teachers College North,
Chicago, Illinois
Delta College, Saginaw, Michigan
St. Louis Junior College District,
St. Louis, Missouri
Stephens College, Columbia, Missouri
Colorado College,
Colorado Springs, Colorado
United States Air Force Academy,
Colorado Springs, Colorado
Orange Coast College,
Costa Mesa, California
Mount San Antonio College,
Walnut, California
Foothill College,
Los Altos Hills, California
College of San Mateo,
San Mateo, California

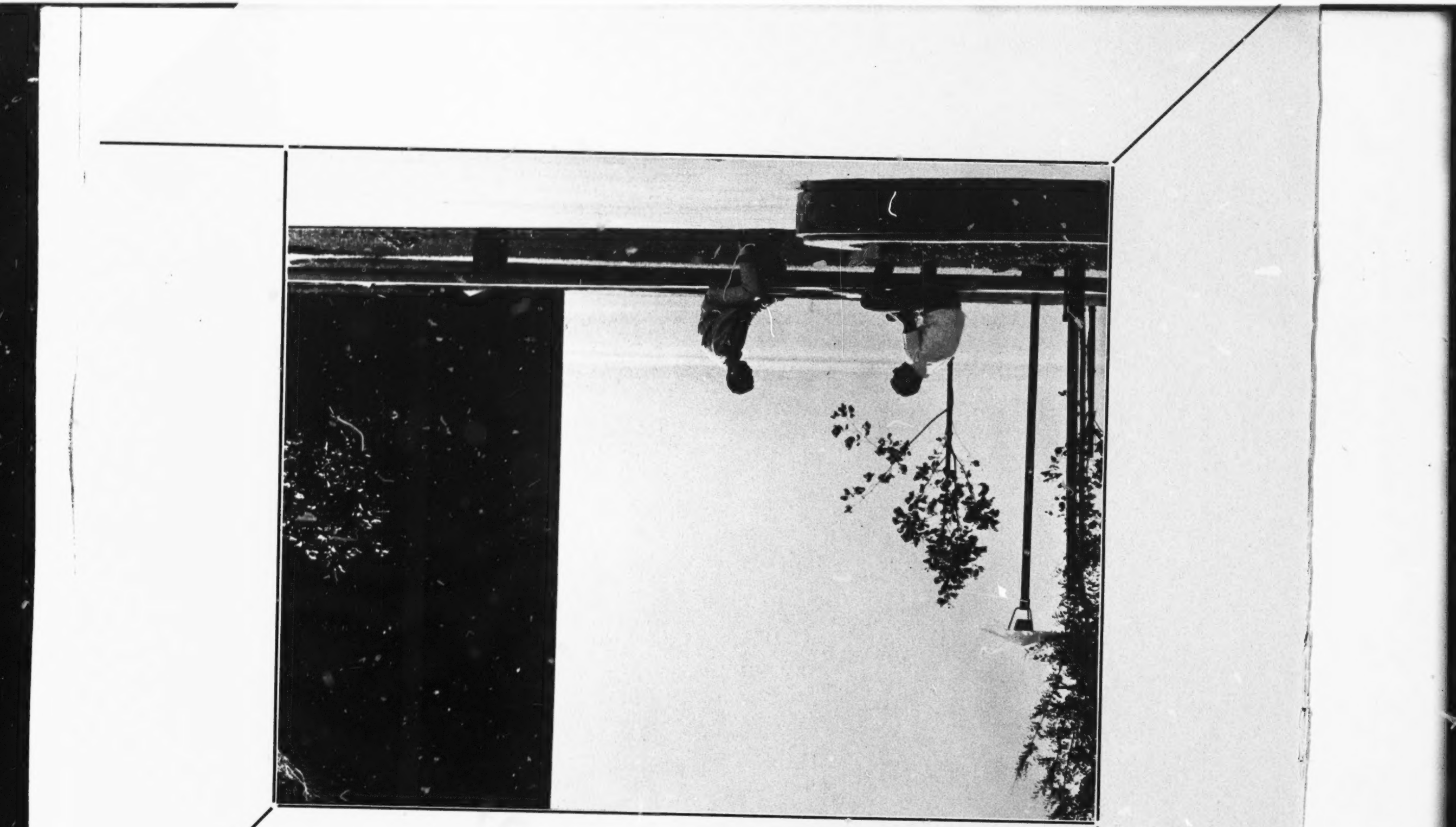
What tour members saw is reported in pictorial form in a book titled *A Window to the Future*. A few high lights from the trip appeared in the September 1964 issue of the *SPL Report*, the quarterly publication put out by the Laboratory to announce new developments in school planning and design. Most significant, however, were the reports the participants themselves made to their faculties, administrative staffs, boards, architects, and to citizens groups upon returning from the trip. Some recorded their experiences in written reports and other with the aid of film and audio tape.

A significant number of tour members reported back to the school Planning Laboratory on the effects the tour had on their own building plans. Almost all indicated their outlook on facilities planning in general had been significantly affected by the experience, and others reported the trip actually resulted in drastic changes and improvements to their own already well established plans for new facilities. Their comments, in general, indicate that the goals of the tour were achieved and that its effects will be a great benefit and far reaching.

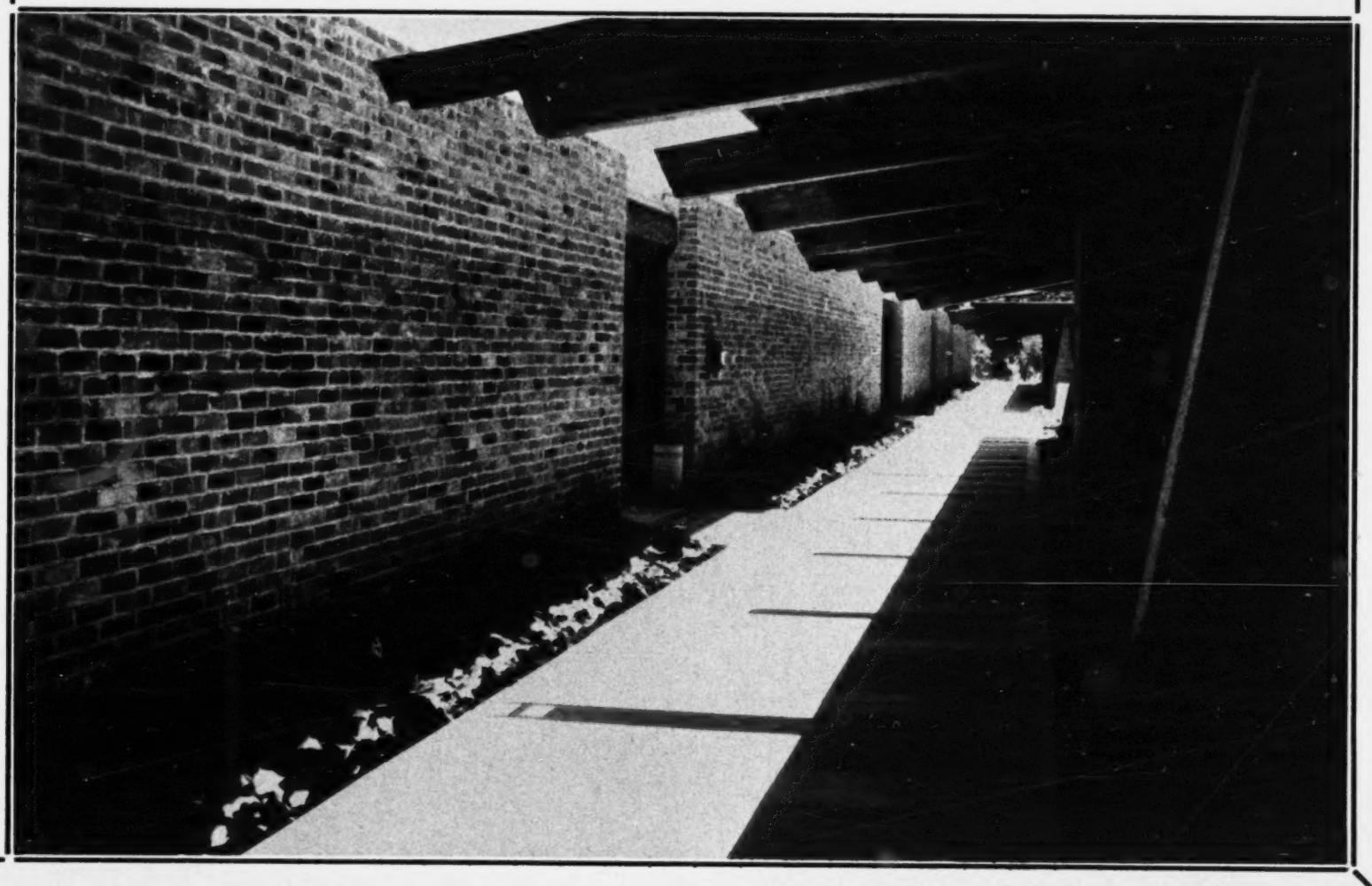
"The Airborne Institute gave me an opportunity to test my ideas against those of other educators and architects and to receive from them many worthwhile suggestions for improving our facilities and programs beyond what I had previously imagined."

"None of our Board had seen a community college. We took four of our seven board members, an advisory council member, architect, and one of our faculty to Delta College for a day. We are now trying to plan a similar trip to Florida or California. The reaction of our Board members was very vigorous. One said 'I will have to start my thinking all over again.'"

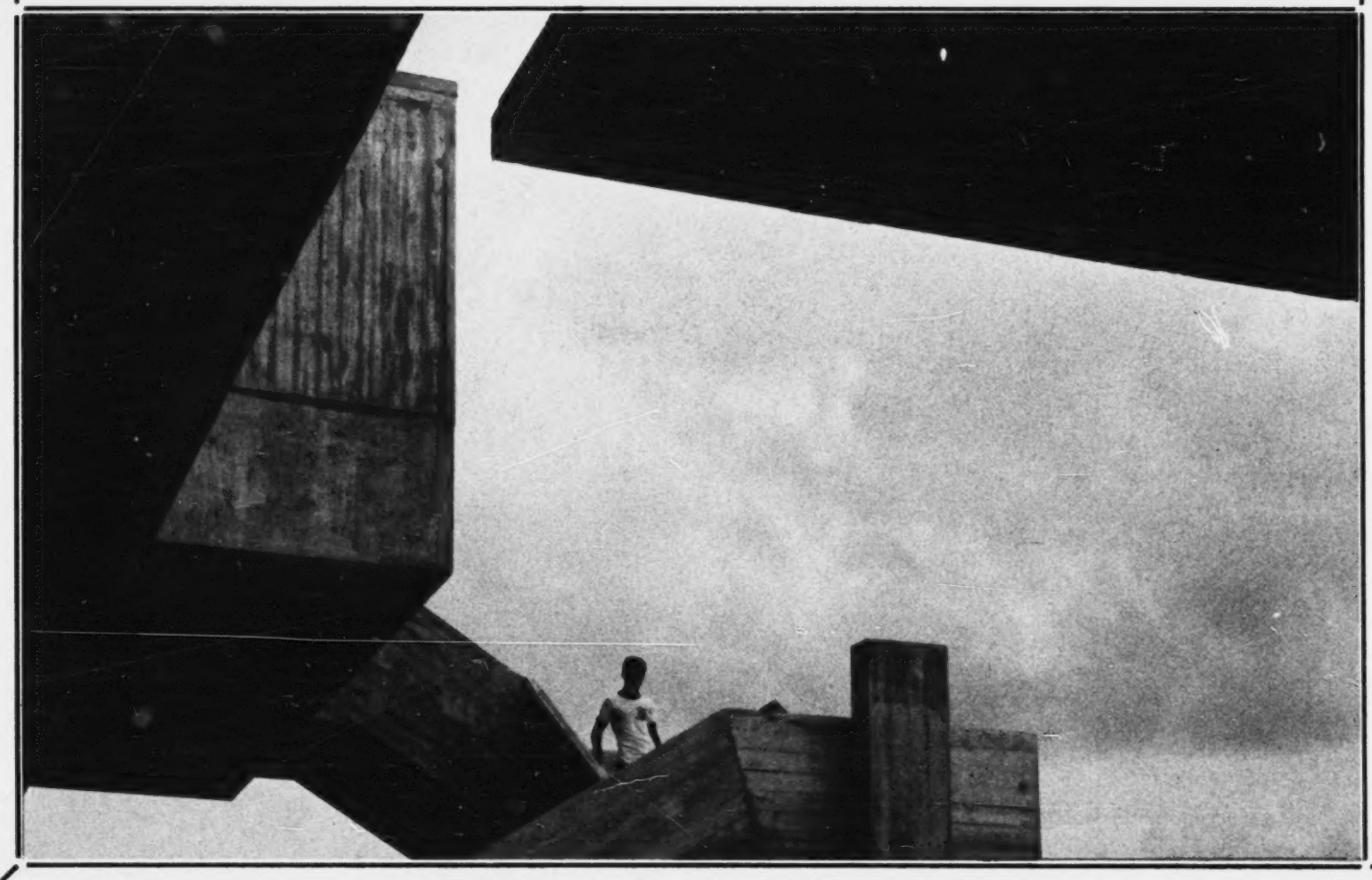
(Far right) "I gained a great deal in generalized understanding of some of the problems, achievements, and deficiencies of new construction. These have enabled me and will enable me in the months ahead to do a much better job in planning the new campus we expect to start constructing this coming spring."



". . . our architect and I now dare to design into the building things which we would never have had the courage to include in the blueprints had I not seen them with my own eyes on the tour."



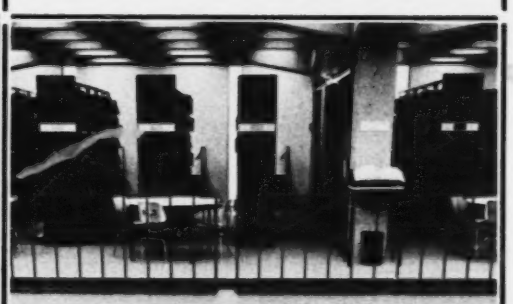
*"In discussing design
and other planning functions, it has
been decided to take another
look at five or six of the colleges
visited in July, this time
in company with the architects."*

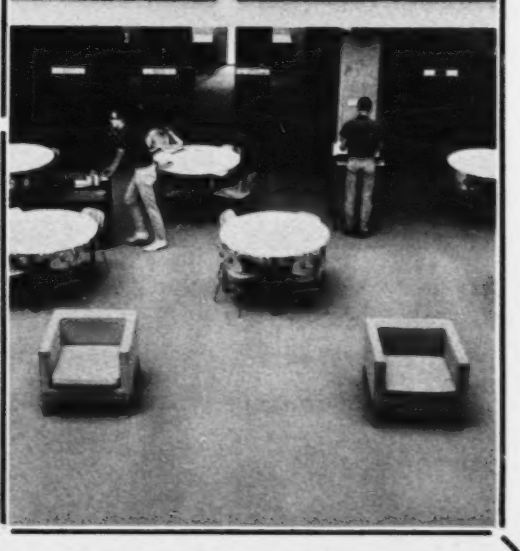


"We are using the idea of glass at the top of partitions to create a feeling of on-going space in our new Humanities-Administrative complex."

"I feel much more confident about planning a modern, functional, up-to-date campus as a result of this experience. We are incorporating some closed circuit television, lecture halls with rearview projection screens, study carrels, language labs and many other modern conveniences."

"I would say that our Library will be significantly improved as a result of the Airborne tour."

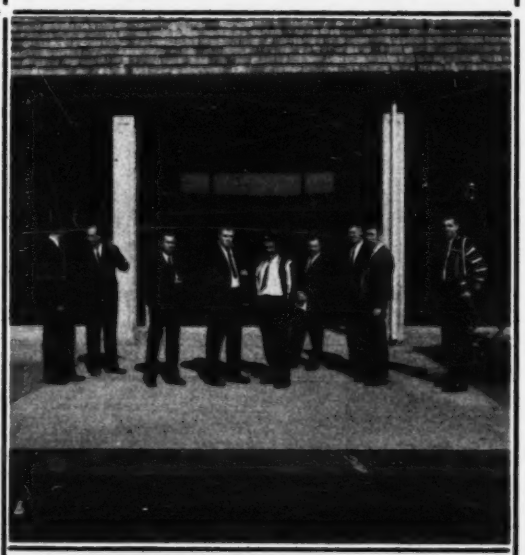




THROUGH SCHOOL PLANNING EDUCATION

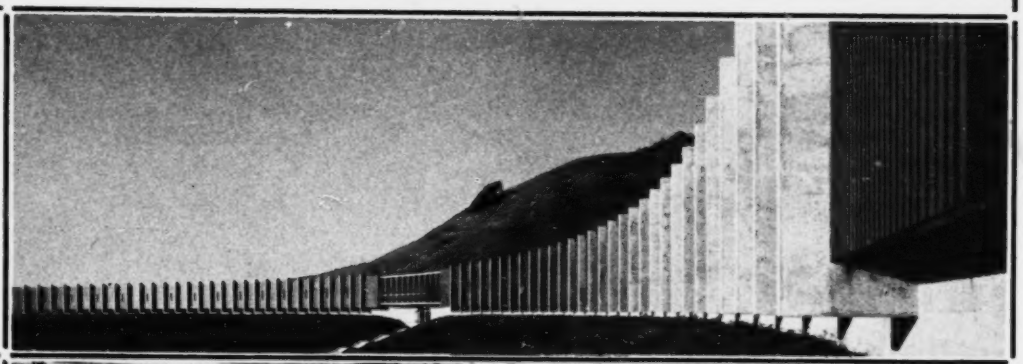
During 1964, some forty persons actively participated in the School Planning Laboratory's program for training educators in school planning. The program is designed to provide both the knowledge and the practical experience needed to plan physical environments appropriate to instructional programs. In the past, students in the program have been, for the most part, public elementary and secondary school administrators returned to Stanford for their doctorate. Increasingly, individuals working in higher education and from independent private institutions are participating in the training. This last year some seven foreign countries were represented within the school planning training group.

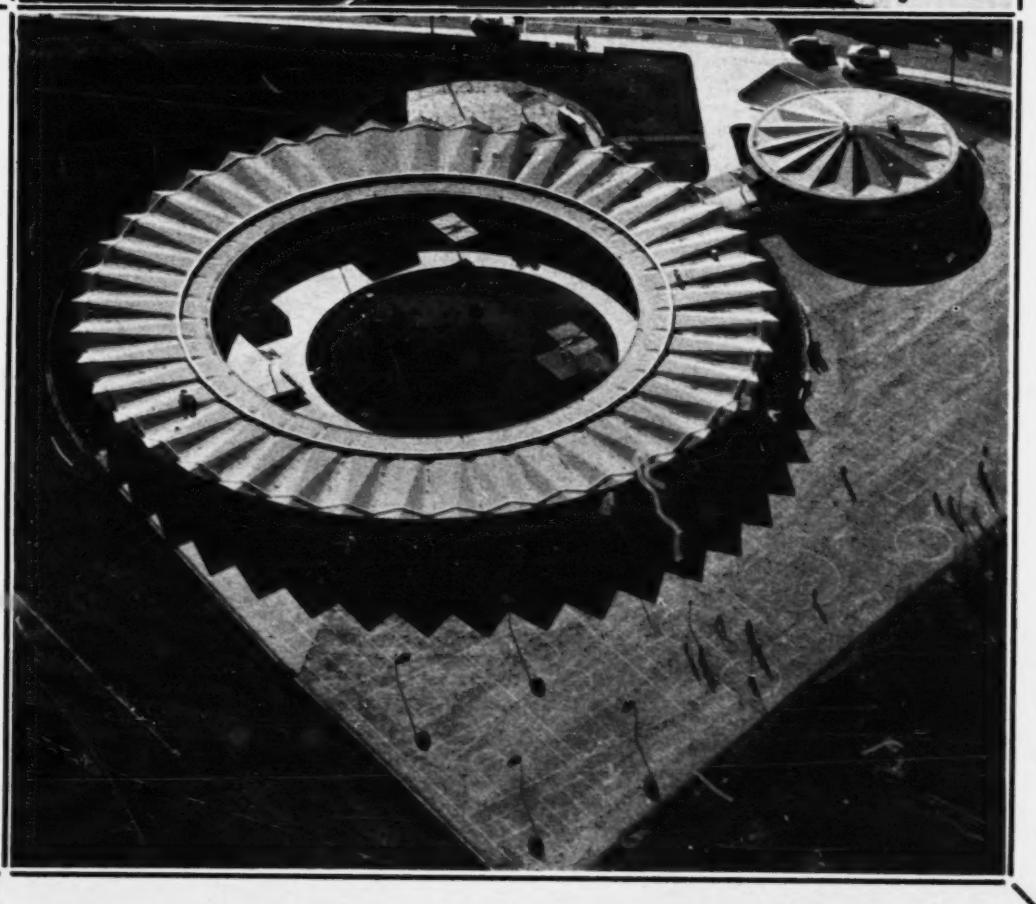
The classwork in this program focuses on hypothetical workset problems in master planning and educational specifications writing. The solutions to these problems are later applied in a practical setting. Much of the teaching is done on a team teaching basis. In the past year the quality of the instruction has been upgraded and the amount of course material has been increased. Materials for the course are constantly updated and new information in the field is obtained by calling in specialists in given fields. It has become apparent this last year, however, that the number of instructors available will not match the increase that can be anticipated in the number of students in this field. The rapid growth in such developments as community colleges and vocational education and in the population's educational demands indicate a specialization in school planning will probably become a doctoral objective in education.



Students in school planning course visit Henry M. Gunn High School in Palo Alto, California, on one of the many field trips conducted during the course. The schools visited represent practical solutions to facilities problems taken up in class.

(Above) Oceana High School in Pacifica, California
(Below) Vista Mar Elementary School in Daly City, California





This high school and elementary school by architect Mario J. Ciampi are two of the thirty to forty outstanding new school designs included on the list of schools to which visitors are taken. Central core or cluster plans, innovative science facilities, carpeting applications, flexible ceiling and wall systems, and designs for independent study spaces are but a few examples of the features that can be demonstrated by selection from this list.

THROUGH SERVICE TO VISITORS

To the visitor with a specific facilities planning problem, perhaps one of the most important services provided by the School Planning Laboratory is that offered under its visitation program. On the average, some 50 visitors a month apply to the Laboratory for information on significant new facilities and are taken to visit several schools in the San Francisco Bay Area that demonstrate the application of new innovations in educational facilities planning or solutions to specific construction problems in which they might be interested. Such visitors include school district superintendents, architects, school board members, and teachers. They come mainly from districts in the western United States, but in many instances from foreign countries, including Canada, Mexico, South American countries, and countries in the Far East.

The schools to which visitors are taken might represent any academic level from elementary to higher education. The SPL staff operating the visitation program selected these schools by surveying the opinions of district superintendents regarding outstanding facilities in their districts and then following up the survey with systematic evaluating visits. Some of the schools included are significant in terms of their overall design and others for some particular feature or innovation. By careful selection, visitors can be shown a wide range of design flexibility and also features that are particularly related to their own interests or problems. Laboratory personnel also help visitors by directing them to significant schools in other parts of the U. S. to which they might be traveling and often inform them of outstanding schools in their own geographical area.

In addition to scheduling visits, it is often possible for the laboratory to assist visitors in obtaining consultant assistance. Because of the close liaison kept with architects and educator-planners throughout the United States, much of such assistance comes from members of the staff. In other instances, visitors are directed to information sources elsewhere. Through its research efforts and contacts, the School Planning Laboratory is able to keep fairly well abreast of current developments in school facilities design and planning and to update its information. At the same time it constantly seeks new sources of information on significant new facilities. Those who have availed themselves of this unique service have been extremely appreciative and in many instances have themselves served as valuable sources of new information. It is in this spirit of sharing the most current information available and then communicating it to others that SPL hopes to exert the greatest influence toward better schools.

THROUGH COMMUNITY COLLEGE PLANNING

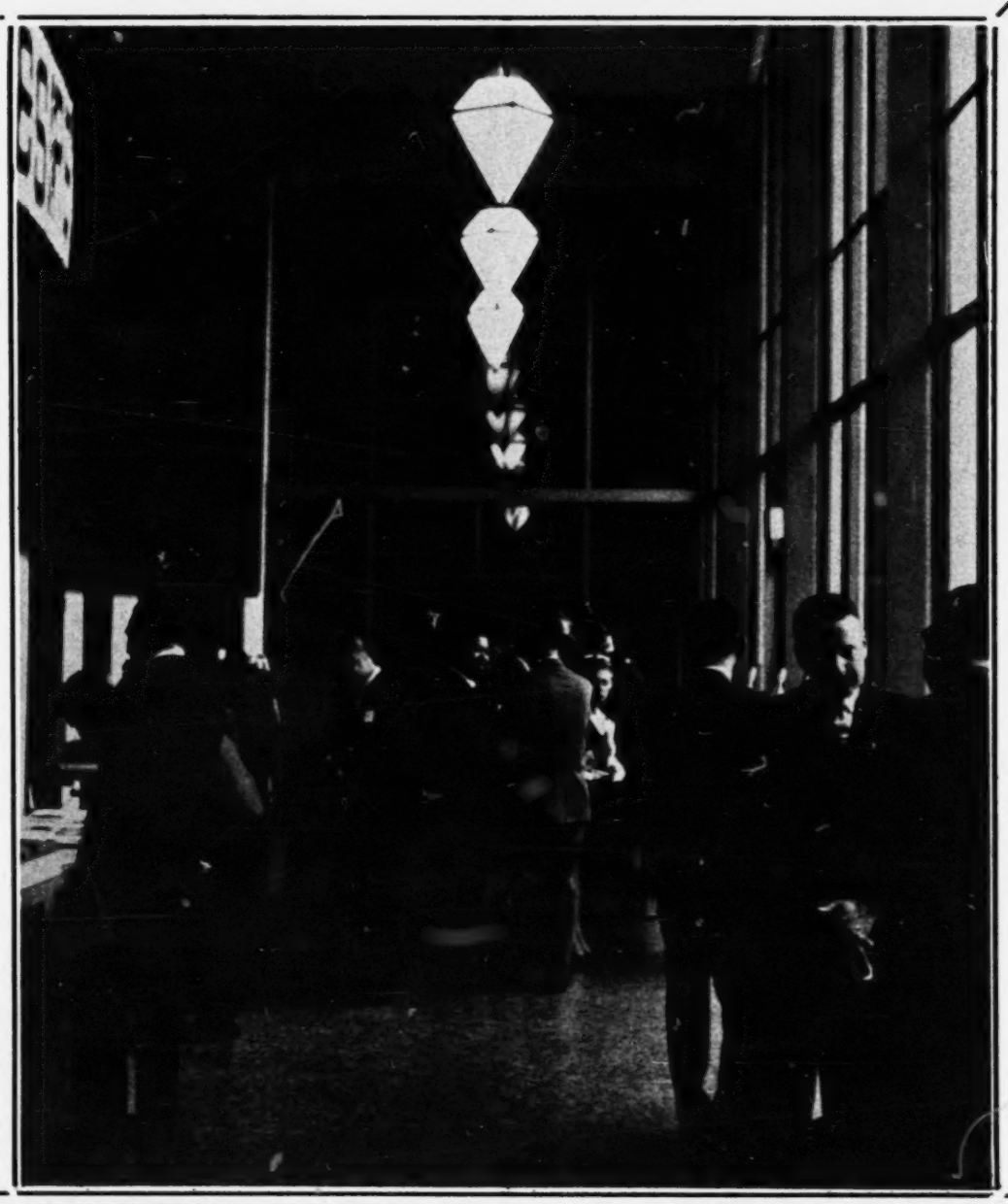
The Community College Planning Center has rendered services to emerging community colleges, national and foreign, by acting as consultants, organizing conferences, conducting tours to significant facilities, and through research and publications.

The American junior college movement has produced many community college systems, ranging from highly developed state systems like those of California, Florida, New York, and Illinois to the embryo systems now developing in states just entering the junior college field. In 1964 some of the more highly developed systems were rendered consultant assistance within the following facilities problem areas: communications centers, libraries, multi-campus relationships, space allocations for emerging vocational and technical programs, funding, college unions, student residences, teaching media, and facilities renovation. In other instances, newly formed junior college districts have been given assistance in planning and organizing their staff and programs and in accommodating temporary structures to instructional use. All told, CCPC personnel have served as consultants in more than twenty states during the past year. They have also rendered assistance in the junior college field to visitors from Canada, Mexico, Brazil, Argentina, Australia, New Zealand, Great Britain, Germany, France, India, Pakistan, and to a few from the new African nations.

A major activity of the planning center is that of mounting conferences at which experts in several areas of planning, from curriculum programming and community college administration to architectural design, are brought together to discuss and develop new approaches to organization and building in the community college field. In 1964, these conferences were called to assist individual colleges, groups of organizing colleges, groups of expanding colleges, and various associations such as the California School Board Association. In addition to conferences on the application of new ideas and innovations, other purely exploratory conferences have been held covering such subjects as the following: the community college in an urban setting, mix and institutional press, community college information centers and their function, the community college library and student study habits, and common problems and mistakes encountered in planning and building a community college.

CCPC activity in 1964 resulted in three publications dealing with community college planning problems. These include *Concepts, Guidelines, and Issues, Community Colleges in Urban Settings,* and *Previews and Reviews.*

Community College Planning Center display at the San Francisco annual meeting of the Association of School Business Officials. This display featured CCPC and EFL publications, modular carpeting, and a continuous tape and slide presentation dealing with modern trends in school construction and design.



Participants inspect exhibits at college of San Mateo in San Mateo, California during a workshop on planning vocational, technical, and industrial facilities for junior colleges attended by school officials, school planners, and architects. The workshop had been conducted in Los Angeles a week earlier for planners from the southern part of the state.

THROUGH DIRECT ASSISTANCE

As Western Regional Center for Educational Facilities Laboratories, the School Planning Laboratory clears many proposals for direct assistance submitted to EFL from the Western region of the United States and administers those grants for direct assistance awarded in this area. Projects administered during 1964 carried SPL staff as far north as Alaska and as far west as American Samoa in the South Pacific. These projects have covered a great variety of educational facilities planning activity during which SPL —

1 *Prepared educational specifications in cooperation with the Educational Planning Service of Greeley, Colorado for rural schools in Alaska for the Alaska State Department of Education.*

2 *In cooperation with the State of California Office of Architecture and Construction, surveyed the damage to school buildings in the Anchorage area following the major earthquake experienced in Alaska in 1964.*

3 *Administered a grant supporting the design and construction of a divisible high school auditorium in Stockton, California scheduled to be fully operational in 1965.*

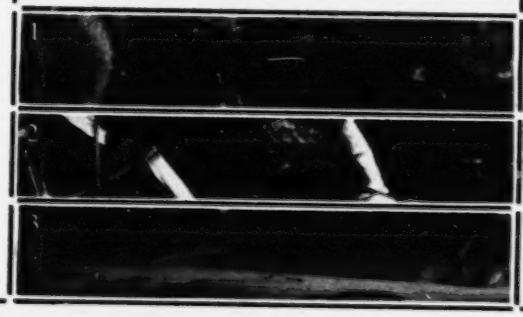
4 *Provided consulting and coordination services for two projects in Clark County, Nevada, one covering an elementary school which will be constructed employing the second SCSD "system," and another the Vocational Technical Center under construction outside of Las Vegas.*

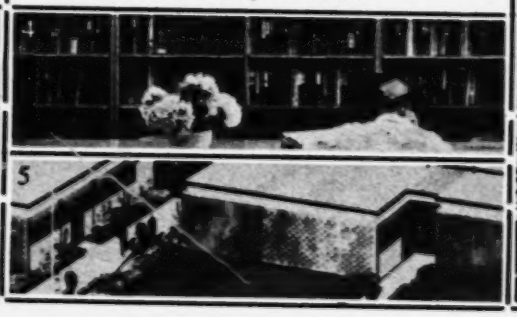
5 *Completed a study resulting in the construction of a district administration building in the Charter Oak Unified School District, Covina, California, designed expressly to accommodate the organizational relationships expressed in this district's staff structure.*

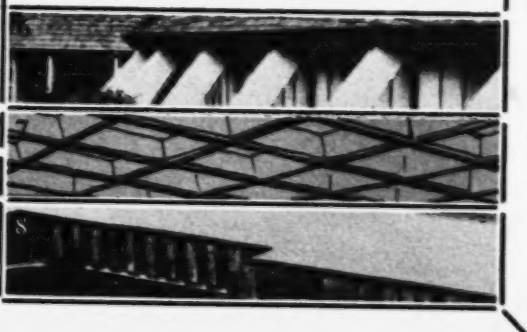
6 *Developed a master plan for education in American Samoa as well as the educational specifications for a new high school now under construction.*

7 *Assisted the Los Altos, California Elementary School District with research designed to test new ideas in the division of teaching spaces at the elementary level.*

8 *Monitored the construction progress of a new high school in Weber County, Utah for which the laboratory had written the educational specifications and for which changes in teaching procedures and programs have been developed and tested during the construction period.*







THROUGH CONTINUED EFFORT		
As in the past, the momentum of SPL Activity during a given year carries the Laboratory into the following year with projects to continue, projects to complete, earlier projects to follow up, and entirely new problems to investigate. The year 1965 will be no exception. Environmental testing of the first SCSD component system will be completed at the same time that parts of the second competitive system are being developed and applied in a Clark County, Nevada elementary school. In addition to offering continued assistance and guidance to EFL grant recipients, SPL will seek out and review new proposals that appear to offer significant answers to educational facilities planning problems.	An elementary school planning institute will be held in July as part of Stanford's 1965 summer program on elementary school education. At this institute elementary curriculum specialists and eminent architects in the field of elementary school design will be brought together to impart their knowledge of elementary school plant needs. The effects of the physical environment on learning, new methods in school construction, new instruction methods, and new methods of achieving plant flexibility are a few of the subject areas that will be covered by conferences and workshops either sponsored by or attended by SPL staff members in the coming year. The information derived from these meetings will be reported in the quarterly SPL report and in special SPL publications.	The education program of the Laboratory will be expanded to accommodate the growing demand for more course material, more practical experience, and, ultimately, the demand for more planners. Visitors and inquiring correspondents will continue to be served by SPL consultant services and by referral to resource persons and to examples of successful educational facility designs. Publications have been projected in the following subject areas: Study spaces for community college students, carpet applications, alternative configurations for instructional television, master planning for small colleges, new paths to flexibility in school buildings, a management system to be used in planning and constructing schools, and evaluations of buildings constructed with EFL/SPL support.

Educational Facilities Laboratories, Inc., is a nonprofit corporation established by the Ford Foundation in 1958 to help American schools and colleges with their physical problems by encouraging research and experimentation and disseminating knowledge regarding educational facilities. The School Planning Laboratory serves as Educational Facilities Laboratories' Western Regional Center and assists in activities related to the western states.

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